

What Is Claimed Is:

1 1. A color filter on array substrate, comprising:
2 a substrate;
3 an insulating layer formed on selected regions on the
4 substrate, the insulating layer having a reflective
5 top surface; and
6 a color filter over the substrate, including over the
7 insulating layer at the selected regions, wherein
8 a thickness of the color filter at the selected
9 regions is thinner than that at beyond the selected
10 regions.

1 2. The color filter on array substrate according to
2 claim 1, wherein the insulating layer includes a reflective
3 layer having a reflective top surface.

1 3. The color filter on array substrate according to
2 claim 1, wherein the insulating layer does not extend beyond
3 the selected regions on the substrate, and the selected regions
4 generally define reflective regions on the substrate and the
5 regions outside the selected regions generally define
6 transmissive regions on the substrate.

1 4. The color filter on array substrate according to
2 claim 1, wherein the insulating layer extends beyond the
3 selected regions on the substrate, and the selected regions
4 generally define reflective regions on the substrate and the
5 regions outside the selected regions generally define
6 transmissive regions on the substrate.

1 5. The color filter on array substrate according to
2 claim 1, further comprising:

3 a pixel electrode formed on the color filter.

1 6. A transflective liquid crystal display device,
2 comprising:

3 a color filter on an array substrate, comprising:

4 a first substrate;

5 an insulating layer formed on selected regions on the
6 first substrate, the insulating layer having
7 a reflective top surface; and

8 the color filter over the first substrate, including
9 over the insulating layer at the selected
10 regions, wherein a thickness of the color
11 filter at the selected regions is thinner than
12 that at beyond the selected regions;

13 a liquid crystal element supported on the color filter on
14 the array substrate; and

15 electrodes operatively coupled to the liquid crystal
16 element.

1 7. The transflective liquid crystal display device
2 according to claim 6, wherein the electrodes comprise a pixel
3 electrode and a common electrode.

1 8. The transflective liquid crystal display device
2 according to claim 6, further comprising:

3 a second substrate opposite the first substrate, wherein
4 the first and second substrates sandwich
5 therebetween the liquid crystal element,

6 electrodes, the insulating layer and the color
7 filter.

1 9. The transflective liquid crystal display device
2 according to claim 6, wherein the insulating layer includes a
3 reflective layer having a reflective top surface.

1 10. The transflective liquid crystal display device
2 according to claim 6, wherein the insulating layer does not
3 extend beyond the selected regions on the first substrate, and
4 the selected regions generally define reflective regions on the
5 first substrate and the regions outside the selected regions
6 generally define transmissive regions on the first substrate.

1 11. The transflective liquid crystal display device
2 according to claim 6, wherein the insulating layer extends
3 beyond the selected regions on the first substrate, and the
4 selected regions generally define reflective regions on the
5 first substrate and the regions outside the selected regions
6 generally define transmissive regions on the first substrate.

1 12. An electronic device, comprising:
2 a liquid crystal display device comprising a color filter
3 on an array substrate, wherein the array substrate
4 comprises:
5 a first substrate;
6 an insulating layer formed on selected regions on the
7 first substrate, the insulating layer having
8 a reflective top surface;
9 the color filter over the first substrate, including
10 over the insulating layer at the selected
11 regions, wherein a thickness of the color

12 filter at the selected regions is thinner than
13 that at beyond the selected regions;
14 a liquid crystal element supported on the color
15 filter on the array substrate; and
16 electrodes operatively coupled to the liquid crystal
17 element; and
18 control electronics operatively coupled to the liquid
19 crystal display device, controlling the liquid
20 crystal display device to display an image in
21 accordance with display data.

1 13. A process of fabricating a color filter on array
2 substrate, comprising the steps of:
3 providing a first substrate;
4 forming an insulating layer on selected regions on the
5 first substrate, the insulating layer having a
6 reflective top surface; and
7 forming a color filter over the first substrate, including
8 over the insulating layer at selected regions,
9 wherein a thickness of the color filter at the
10 selected regions is thinner than that at beyond the
11 selected regions.

1 14. The process according to claim 13, wherein the
2 insulating layer includes a reflective layer having a
3 reflective top surface.

1 15. The process according to claim 13, wherein the
2 insulating layer does not extend beyond the selected regions
3 on the substrate, and the selected regions generally define
4 reflective regions on the substrate and the regions outside the

5 selected regions generally define transmissive regions on the
6 substrate.

1 16. The process according to claim 13, wherein the
2 insulating layer extends beyond the selected regions on the
3 substrate, and the selected regions generally define
4 reflective regions on the substrate and the regions outside the
5 selected regions generally define transmissive regions on the
6 substrate.

1 17. The process according to claim 13, further
2 comprising the step of:

3 forming a pixel electrode on the color filter.

1 18. A process of fabricating a transflective liquid
2 crystal display device, comprising the steps of:

3 forming a color filter on an array substrate, comprising
4 the steps of:

5 providing a first substrate;

6 forming an insulating layer on selected regions on
7 the first substrate, the insulating layer
8 having a reflective top surface; and

9 forming a color filter over the first substrate,
10 including over the insulating layer at
11 selected regions, wherein a thickness of the
12 color filter at the selected regions is thinner
13 than that at beyond the selected regions;

14 providing a liquid crystal element on the color filter on
15 the array substrate; and

16 providing electrodes operatively coupled to the liquid
17 crystal element.

1 19. The process according to claim 18, wherein the
2 insulating layer includes a reflective layer having a
3 reflective top surface.

1 20. The process according to claim 18, wherein the
2 insulating layer does not extend beyond the selected regions
3 on the first substrate, and the selected regions generally
4 define reflective regions on the first substrate and the
5 regions outside the selected regions generally define
6 transmissive regions on the first substrate.

1 21. The process according to claim 18, wherein the
2 insulating layer extends beyond the selected regions on the
3 first substrate, and the selected regions generally define
4 reflective regions on the first substrate and the regions
5 outside the selected regions generally define transmissive
6 regions on the first substrate.